Tennessee Department of Education

Reliability of AYP Determinations

2004-2005

Fast and Hebbler (2004) identify two questions for states to ask when analyzing the reliability of AYP determinations: Are the results of the AYP model stable over time? Are the "right" schools identified?

Are the results of the AYP model stable over time?

The State utilized the "Model for Analyzing Agreement Between Two Years" from Fast and Hebbler (2004, pg 54). Schools that missed any AYP math or reading/language arts proficiency cells in 2004 or 2005 were included in the analysis. Each school was categorized as to its AYP Level of Need for each year (Table 1).

Table 1: AYP Levels of Need

Level of Need	AYP proficiency cells missed
0	0
1	1-2
2	3-4
3	5-6
4	>6

Table 2 was constructed using the counts of schools falling in each level of need across the two years.

Table 2: AYP Stability Model

AYP Level of Need – 2005

AYP Level of Need - 2004	0	1	2	3	4
4	0	0	4	1	2
3	21	3	6	1	0
2	33	3	4	2	0
1	64	9	5	4	0
0	na	44	23	4	0

Fast and Hebbler (2004) indicate that good agreement would be expected if most schools fall within the shaded cells. Counts above zero in non-shaded cells indicate a lack of stability in the model.

This analysis indicates a possible lack of stability in Tennessee's AYP model. A total of 54 schools moved from a 3 or 2 to a 0 level of need between 2004 and 2005 and a total of 27 schools moved from a 0 to a 2 or 3 between 2004 and 2005.

The State analyzed a sample of the 54 schools that moved from a 2 or 3 level of need to a 0. The schools selected had improved the percent of students scoring proficient or advanced enough to either meet the AMO target, meet the target using a confidence interval, or enough to meet AYP using safe harbor. There were no instances of schools with fluctuating enrollment or other signs that might indicate a validity threat.

The State also analyzed a sample of the 27 schools that had moved from a 0 to a 2 or 3 level of need. Most of the schools had experienced decreases in the percent of students scoring proficient or advanced. Several schools had experienced steady performance but were "caught" when the standards increased between 2003-04 and 2004-05. One of the schools that moved from a 0 to a 3 level of need – a high school – had experienced a 73% increase in the number of students taking the Algebra I exam for the first time and experienced a dramatic decrease in the percent of students scoring proficient or advanced. Given that 2004-05 was the first year that students were required to pass all exit exams to receive a regular high school diploma, it is reasonable that the school would have a larger number of students taking the exam. This was investigated and found to be a pattern across several other high schools.

Were the "right" schools identified?

As suggested by Fast and Hebbler (2004), the State compared school performance on AYP versus school performance on another State accountability system. Tennessee identified the 14 schools that had an AYP level of need of 3 or 4 in 2005 and analyzed their performance with low-performing students according to the State's value-added system that pre-dates NCLB. Of the 14 schools, 3 had made far above expected growth with low-performing students, 4 had made far less than expected growth, and the other 7 had mixed results.

The State also receives continuous feedback on the validity of AYP determinations from technical assistance personnel assigned on-site to schools that have been identified for improvement.

Fast, Ellen Forte and Steve Hebbler. 2004. "A Framework for Examining Validity in State Accountability Systems." ASR State Collaborative. Council of Chief State School Officers, Washington D.C.